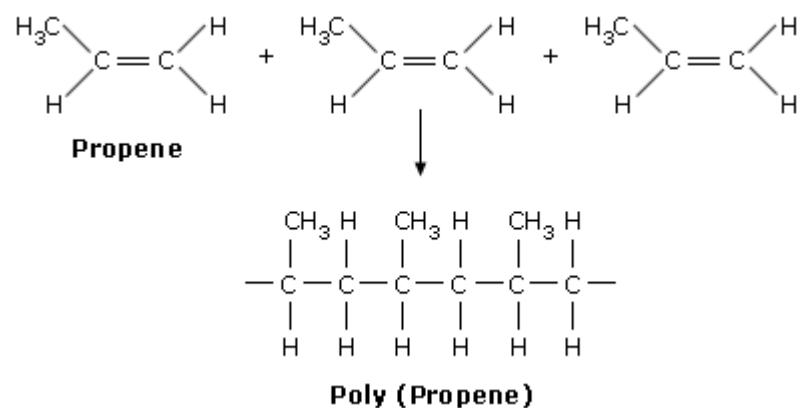


ANSWERS: Crystal Ball questions on Polymers

1. The conditions required for a polymerisation reaction are

- heat
- pressure
- a catalyst

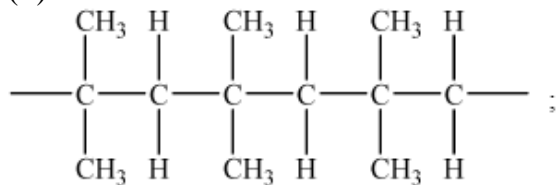
2. The diagram shows the formation of polypropene, this is a polymerisation reaction. The double bond between the carbon atoms is broken between many monomers (mono means “one”) of propene, forming a long polymer chain (poly means “many”). This polymerisation reaction happens under conditions of high pressure, high temperature (around 200 °C) and a catalyst.



3. i) • the production of plastics

- chemically unreactive materials are produced
- there is a wide range in the uses/physical properties of the materials produced
- materials are relatively cheap
- large, global industry
- uses a limited natural resource

(ii)



(iii) monomers are smaller molecules/have lower molecular mass / have smaller surface area than polymers